



# Configuration Manual

## HBLT-Wire– LEVEL SENSOR

For analogue level measurements of NH3 & HFC in refrigeration systems



### Table of contents


Safety Instructions.....	2
Installation of HB Configuration Tool .....	3
Configuration – basic settings .....	3
Configuration – advanced settings .....	4

## Safety Instructions

**CAUTION!** Always read the instruction manual before commencing work! Heed all warnings to the letter! Installation of sensor requires technical knowledge of both refrigeration and electronics. Only properly qualified personnel should work with the product. The technician must be aware of the consequences of an improperly installed sensor, and must be committed to adhering to the applicable local legislation.

If changes are made to type-approved equipment, this type approval becomes void. The product's input and output, as well as its accessories, may only be connected as shown in this guide. HB Products assumes no responsibility for damages resulting from not adhering to the above.

**Explanation of the symbol for safety instructions.** In this guide, the symbol below is used to point out important safety instructions for the user. It will always be found in places in the chapters where the information is relevant. The safety instructions and the warnings in particular, must always be read and adhered to.

	<p><b>CAUTION!</b> Refers to a possible limitation of functionality or risk in usage.</p> <p><b>NOTE!</b> Contains important information about the product and provides further tips.</p> <p>The person responsible for operation must commit to adhering to all the legislative requirements, preventing accidents, and doing everything so as to avoid damage to people and materials.</p>
---	--

**Intended use, conditions of use.** The level sensor is designed for continuous measurement of liquid NH<sub>3</sub> in refrigeration systems. If the sensor is to be used in a different way and if the operation of the product in this function is determined to be problematic, prior approval must be obtained from HB Products.

**Prevention of collateral damage** Make sure that qualified personnel assess any errors and take necessary precautions before attempting to make replacements or repairs, so as to avoid collateral damage.

**Disposal instructions:** HBLT-wire is constructed so that the modules can easily be removed and sorted for disposal.



**NOTE!** In order to be able to change the regulation parameters, it is necessary to have a special USB/M12 configurations cable as well as a configuration tool installed on a PC.

## Installation of HB Configuration Tool

See separate manual for installation of HB Tool.

### Configuration – basic settings

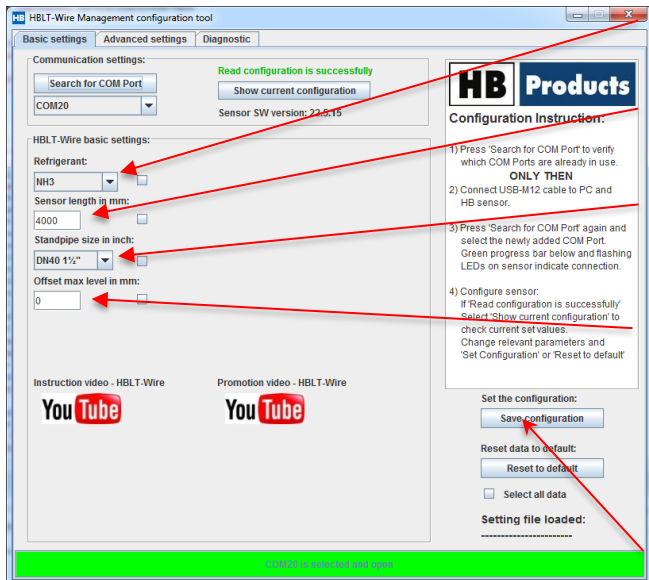
The sensor is supplied with the following configuration options and factory settings.



**CAUTION!** Factory settings do not guarantee safe operation, since the configuration parameters depend on the type of compressor/separator.

Setup	Factory settings	Configuration options
<b>“Basic settings” tab</b>		
Refrigerant	NH3 or HFC	NH3/HFC
Sensor probe length in mm	Sensor length	600...4000
Stand pipe dimension	1 ½”	1”...4”
Offset max niveau i mm	0	0...4000 mm
<b>“Advanced settings” tab</b>		
Alarm setting	100 %	0...100 %
Alarm delay	10 s	0...600 s.
Alarm relay function	NC	NO/NC
Filter time constant	40 s	0...200 s

\*As minimum the sensor length, refrigerant type and stand pipe size must be input for the HBLT-Wire sensor. Shorten the wire to the desired length and input this value in the box for the sensor length and as well refrigerant type and stand pipe dimensions. Then press “Save configuration”



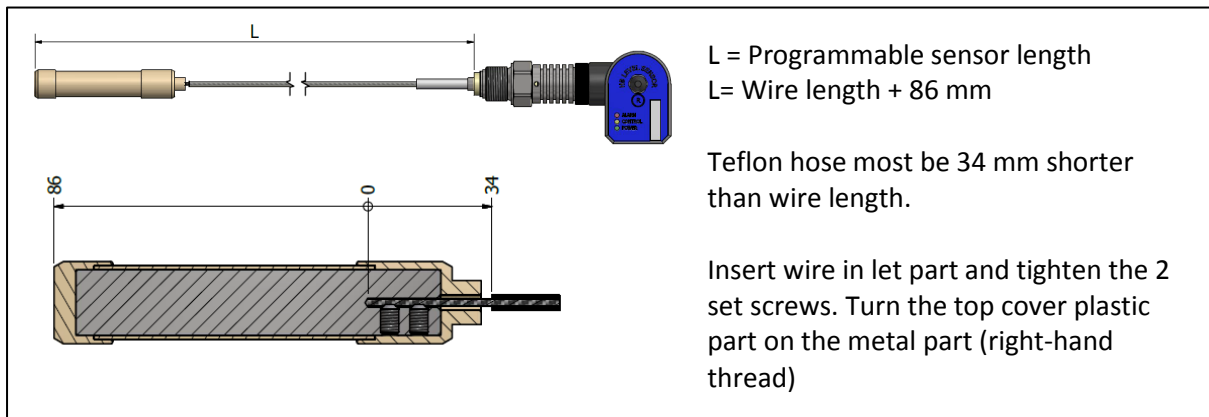
Sensor refrigerant should be input here

Sensor length should be input here

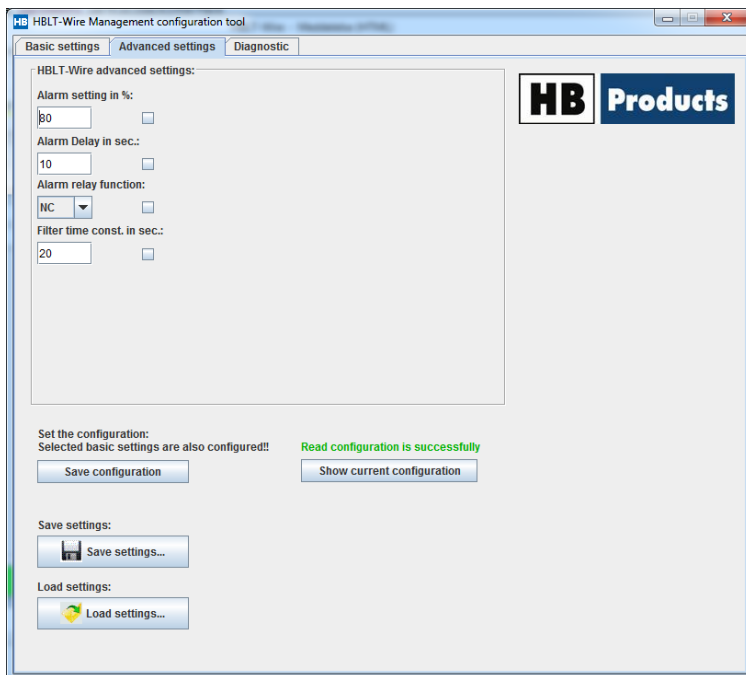
Stand pipe size should be selected here

Input offset value here. The measurement span – programmable sensor length = Offset [mm]. E.g. if 100 % should be at 1400 mm and the sensor length is 1600 mm, the offset length should be 200 mm.

Save by clicking “Save configuration”



## Configuration – advanced settings



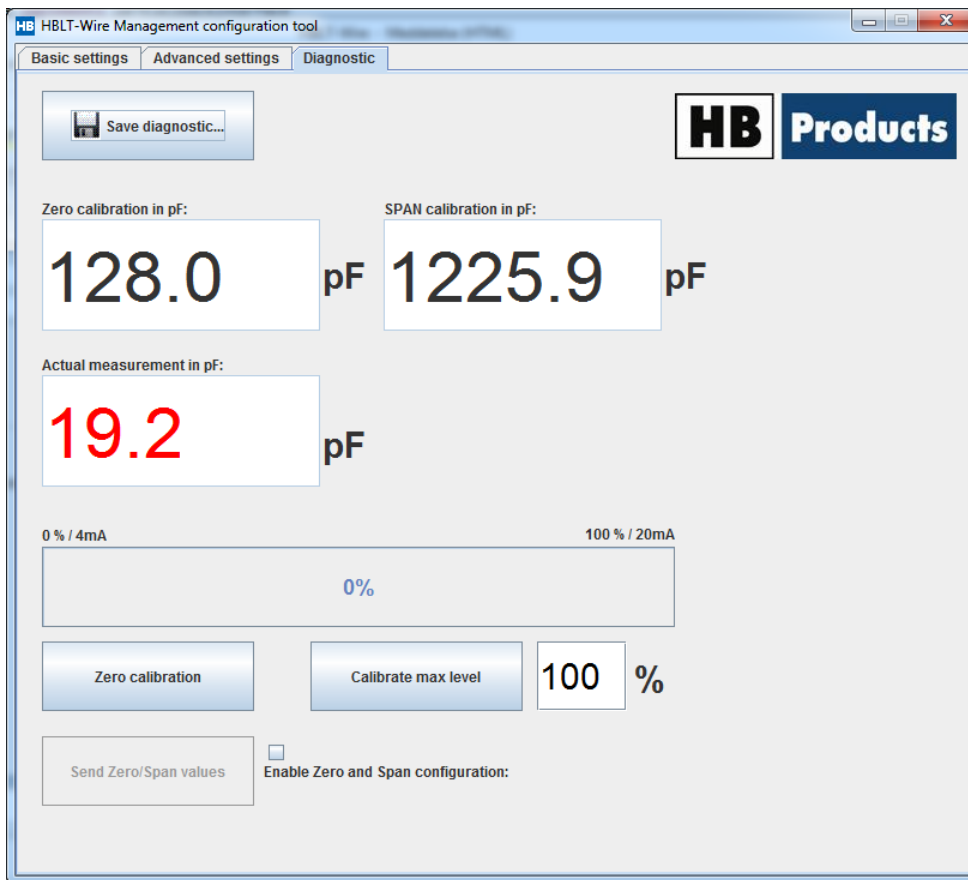
**Alarm setting in %:** Indicates the desired alarm level. It is given in % of max measurement range.

**Alarm delay in sec:** The delay from when the liquid level falls/rises to under/over the selected alarm, indicated in seconds.

**Alarm relay function:** Here, the relay function is indicated, depending upon the instructions – NO or NC (normally open/normally closed).

**Filter time const. in sec.:** Averages the measurement so that the control function is performed based on an average measurement in a programmable time span (in seconds). This is increased if there are brief fluctuations in the measurement that lead to unstable control.

## Diagnostic



### **“Diagnostic” tab:**

In the diagnostic menu application values are read:

- ♣ Zero value is specified as a pF value
- ♣ Current pF value
- ♣ Range in pF
- ♣ Graphic illustration of 4-20 mA signal in the range of 0-100%

HB Products A/S – Bøgekildevej 21 – DK8361 Hasselager – [support@hbproducts.dk](mailto:support@hbproducts.dk) – [www.hbproducts.dk](http://www.hbproducts.dk)